ABSTRACT OF THE DISCLOSURE

A method for fabricating a soft adjacent layer (SAL) magnetoresistive (MR) sensor element and several soft adjacent layer (SAL) magnetoresistive (MR) sensor elements which may be fabricated employing the method. There is first provided a substrate. There is formed over the substrate a dielectric layer, where the dielectric layer has a first surface of the dielectric layer and a second surface of the dielectric layer opposite the first surface of the dielectric layer. There is also formed over the substrate a magnetoresistive (MR) layer contacting the first surface of the dielectric layer. There is also formed over the substrate a soft adjacent layer (SAL), where the soft adjacent layer (SAL) has a first surface of the soft adjacent layer (SAL) and a second surface of the soft adjacent layer (SAL). The first surface of the soft adjacent layer (SAL) contacts the second surface of the dielectric layer. Finally, there is also formed over the substrate a transverse magnetic biasing layer, where the transverse magnetic biasing layer contacts the second surface of the soft adjacent layer (SAL), and where at least one of the dielectric layer, the magnetoresistive (MR) layer, the soft adjacent layer (SAL) and the transverse magnetic biasing layer is a patterned layer formed employing an etch mask which serves as a lift-off stencil for forming a patterned second dielectric layer adjoining an edge of the patterned layer. The invention also contemplates a soft adjacent layer (SAL) magnetoresistive (MR) sensor element formed with the magnetoresistive (MR) layer interposed between the substrate and the soft adjacent layer (SAL). Similarly, the invention also contemplates a soft adjacent layer (SAL) magnetoresistive (MR) sensor element employing a transverse magnetic biasing layer formed of a hard bias permanent magnet material.

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